Original Article

Evaluation of Client's Satisfaction About the Quality of Family Health Care Services in El-Beheira Governorate

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Abstract

Background. Worldwide, the crucial factor in determining the quality of care and health outcomes was seen in clients'/patients' satisfaction. It is also a reliable indicator of the quality of any healthcare services. **The aim of the study** is to evaluate the client's satisfaction about the quality of family healthcare services in El-Beheira Governorate. **Materials and Methods: design**: Descriptive research design will be used to conduct this study. **Setting:** The study was conducted in governmental family health centers in El-Beheira governorate affiliated with the Ministry of Health. **Subjects:** clients (600) who attended the studied family health centers. **Sampling:** A multistage sampling technique was used to select the required sample**. One tool was used:** Clients' satisfaction with family healthcare services structured interview schedule**. Results:** With respect to the client's satisfaction about quality of FHC services (structure, process, and general quality), the highest percentages of the clients had a low level of satisfaction**.** Based on the findings of the present study, it could be concluded that the studied patients reported a low level of satisfaction related to the quality of FHC for structure, process, and outcome especially in Damanhour district. **Recommendations:** the MOH should ensure that there are appropriate means for monitoring and evaluation of primary healthcare services presenting in all family healthcare centers and units.

Keywords: Client satisfaction, Family health centers, Primary health care, Quality of FHC services.

Introduction

Primary Health Care (PHC) initiatives are frequently carried out at the local, intermediate, and national levels of government, so the administrators can direct the development, consolidation, and reformulation of PHC services by evaluating PHC services and their effect on the clients' health outcomes. [(1)] The adherence to and effectiveness of the essential principles must be considered when evaluating PHC by recognizing the seven main dimensions of primary health care services (structure, human resources, Electronic Health Record system finances, insurance, medications, and quality of services. [(2)]

When a consumer feels or thinks positively about an event or is satisfied when their need is met, this psychological state is known as client satisfaction. It relates to customer demand, and a customer is only content if the demand is met. [(3)] Many literatures have revealed that satisfied clients are more likely to establish positive working relationships with the healthcare system, improving compliance, and continuity of care, and eventually leading to improved health outcomes.[(4)] The first step in a patient-centered approach to providing healthcare is identifying the client's/patient's needs and evaluating the health services offered, because it can predict both adherence and use, client/patient satisfaction is seen as

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a crucial indicator of the effectiveness of healthcare services, [5] Which is improving the population's health state is the main purpose of healthcare services. In order to increase client/patient satisfaction with healthcare services, the healthcare system has undergone reforms on a global scale. [6]

The current coronavirus disease 2019 (COVID-19) outbreak brought to light the vital role that PHC might play in screening and monitoring for COVID-19, and sustaining routine care for other health issues. [7] The efficiency of these directives depends on whether Egypt can build a robust PHC system with respectable quality of care for the all community. [8]

The formation of whole-person, integrated, accessible, and unbiased health care by interprofessional teams who are liable for addressing the majority of a person's health and wellness requirements across settings and through sustained relationships with clients, families, and communities is known as high-quality healthcare. [9] The committee based this definition on the following concepts: unified, whole-person health; interprofessional care teams; foundational, continuous, trustful relationships between the interprofessional care team and clients/patients and families; the serious role of communities in providing primary care; the importance of equitable access to primary care; and the variety of settings and modalities used to provide primary health care. This definition describes what high-quality primary care should be. [10,11]

Primary healthcare has been demonstrated to be a very effective strategy to deal with the main roots and issues of poor health and well-being today, in addition, to handling the new issues that pose a threat to health and well-being in the future. Additionally, it has been established to be a beneficial financial investment because there is proof that access to high-quality primary healthcare lowers overall healthcare expenses and boosts effectiveness by lowering hospital admissions..[12,13]

Significance of the study

Poor-quality health care can critically affect the more vulnerable groups in the society, and the broader economic and social costs of clients'/patients' harm caused by long-term disability, impairment, lost productivity and associated decrease in the country's Gross Domestic Product (GDP). [14, 15] Furthermore, duplicate services and inefficient health care can generate considerable waste where up to a fifth of health resources are arranged in ways that generate very rare health improvements. It can also undermine the trust of the community in the benefits of modern medicine. [16]

A systematic review about quality of primary health care in the Eastern Mediterranean region by Saleh SH et al., in (2016) presented that unsatisfactory process dimension of quality especially clinical competence, client/patient–provider relationship and clients'/patients' satisfaction. [9,16]

Hence, perfect primary care systems are associated with reduced morbidity, increased patient longevity and improved equity in health outcomes. Thus, evaluating quality of PHC services through patient's/client's satisfaction is the initial step which provides the basic information about the defects in the PHC services delivery to work through for quality improvement.

The aim of the study

This study aims to is to evaluate the client's satisfaction about the quality of family healthcare services in El-Beheira Governorate.

Research question:

1. What is the level of client's satisfaction about the quality of FHC services?

MATERIALS AND METHODS

Research design:

A descriptive design was adopted to carry out this study.

Setting:

The study was conducted in governmental family health centers in El-Beheira governorate affiliated to the Ministry of Health and Population.

Four directorates named (Damanhour –Abo Homous –Etay El-Baroud –El-Rahmaneia) each one has 4 centers named systematically (Naser medical center –Saad medical center –Zawyet Gazal family health center - Medical Health Center- Demesna -Balakter El Garbia – Eltawfikya - Medical Health Center – Klishan – Smokrat - Medical Health Center - Kafr Mehalet Dawood)

Subjects

- The subjects of the present study were a sample of (600) clients attended the studied family health centers who fulfilled the inclusion criteria: -

Inclusion criteria

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- Age: 18 years and older
- Returners more than twice visits on the centers.
- Willing to participate in the study.

Sample size:

- The sample size was calculated by using EPI info7 software.
- Based on average number of clients in the selected family health centers (35392), 50% expected frequency with an acceptable error of 5% and confidence limit 97%. This resulted in a minimum required sample size of 465 clients. The final sample size where 600 clients attended the study setting during the study period.as shown in the following tables.

Table (1) Number of clients Selected from Damanhour, Abo Homos, Etay El-Barod, El-Rahmania Directorates:

Directorate / **Damanhour Directorate**	**Total number of clients per month (N)**	**Selected number (N)**
Naser Medical Center	5663	50
Saad Medical Center	3196	50
Zawiet Ghazal	3591	50
Total	12450	**150**
Abo Homos Directorate	**Total number of clients per month (N)**	**Selected number (N)**
Medical Health Center	3470	50
Demesna	3520	50
Balakter El Garbia	2625	50
Total	**9615**	**150**
Etay Elbaroad	**Total number of clients per month (N)**	**Selected number (N)**
Eltawfikya	1668	50
Medical Health Center	4100	50
Klishan	2673	50
Total	**8441**	**150**
Elrahmania	**Total number of clients per month (N)**	**Selected number (N)**
Smokhrat	1663	50
Medical Health Center	2500	50
Kafr Mehalet Dawood	723	50
Total	**4886**	**150**

Source: Ministry of Health and Population June 2019. [17]

Sampling technique:

A multistage sampling technique was used to select the required sample as shown in the sample estimation table below: -

1. A quarter (four directorates) of the sixteen directorates in El-Beheira governorate were randomly selected.
2. From each directorate three family health centers were randomly selected to collect the required data.
3. A convenient sample of 150 clients from each directorate were included in the study by using equal allocation from each center (50 clients) based on:

Tool for data collection:

One tool was used by the researcher in order to collect the necessary data for the study.

Tool (I): Clients' satisfaction of family healthcare services structured interview schedule

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It was developed by the researcher after a thorough review of relevant recent literature, [18] to assess the client's satisfaction in the family health centers. It contains three parts: -

Part (1): Socio-demographic data: age, sex, residential area, marital status, education, occupation, cause of visiting the family health center.

Part (2): Client's Health history: previous and current health problem, its duration and regularity of follow up and causes of irregularity if present. In addition to, presence of any encountered problems during receiving of PHC services and who responsible for it and whether it is solved by the center.

Part (3): Client's satisfaction scale it aimed to measure client's satisfaction with PHC structure and process of PHC services provision. *Structural characteristics* contains client's perceived center's accessibility, appropriateness of waiting area, availability of equipment and supplies, presence and adequacy of specialized physicians and professional nurses and cost of PHC services. *Process of PHC services* includes client's perceived technical competency as physical care, maintenance of patients' rights, waiting time, provision of health education, training about home self-care practices, psychological care and client's participation in care decision. In addition to, general satisfaction through their intent for follow up in the same center and its recommendations for others. Each item was rated on a three-point Likert scale; highly satisfied (3), moderately satisfied (2) unsatisfied (1). The resultant total score was translated into percentage and classified into three levels; low (0 <50%), moderate (50<75 %) and high (≥75%) satisfaction level.

Methods

1. Administrative phase:

- An official letter from the Faculty of Nursing, University of Damanhour was directed to the Health Affairs Directorate in El Beheira to obtain an approval for collecting the necessary data from the selected settings.
- Approval letters was directed from Health Affairs Directorate in El Beheira to the directors of the selected family health centers.
- Meetings was held with the directors of the selected family health centers to clarify the objective of the study and to gain their cooperation during data collection.

2. Development of the study tools:

- Tool (I) was developed by the researcher after thorough reviewing of the recent literature.
- Reliability of tool was done using Cronbach's Alpha reliability correlation coefficient.
- The result for the Tool I (Clients' satisfaction of family healthcare services structured interview schedule) was r = 0.965.

3. Pilot study

After the development of the tool, a pilot study was conducted before starting data collection on a random sample of 60 clients (10% of the estimated sample). They were obtained from Kar El Dawar directorate.

- The Purposes of the pilot study were:
  - To ensure the clarity and applicability of the tools.
  - To estimate the average time needed for data collection.
  - To identify the limitation that might be come across during operation of the study, so as to make necessary measures to deal with them.
- The tool was evaluated for content validity by a jury of five experts in the field of Community Health Nursing and Nursing Administration. Based on the jury's comments and the pilot study, the tool was reviewed, and the necessary modifications was done.

4. Collection of data

- Collection of data covered a period of 5 months started from the beginning of May 2021 until the end of September 2021.
- Every patient/client was interviewed individually using study tool (I) to collect the necessary data.
- Each interview took approximately from (15-30) minutes using tool II.

5. Ethical consideration

Ethical approval was obtained from the research ethical committee of the Faculty of Nursing, Damanhour University. Each participant was interviewed individually after creating trustful relationship with him to gain their cooperation and confidence, this was accomplished through explaining the purpose of the study, ensure confidentiality and anonymity of the data through a statement in the cover page and using a code number instead of

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names, assure them that the collected data was used only for the purpose of the study and inform them about their voluntary participation in the study.

6. Statistical analysis:

- The collected data was revised, categorized, coded, computerized, tabulated and analyzed using statistical package for social sciences (SPSS) version 18.
- The following statistical measures were used:
  1- Cross tabulation with frequency distribution and percentages were used to explore relationships between variables.
  2- Arithmetic mean, and standard deviation were used as a summary statistic for quantitative data.
  3- Appropriate tests were used as ANOVA test, t Student t test, and Chi-square at 0.05 level of significance.
  4- For graphical presentation: Graphs were done for data visualization using Bar and Pie charts.

Results

Part I: Clients' satisfaction regarding quality of family healthcare services.

- **Clients' Sociodemographic Characteristics.**

Table (1) Distribution of the studied clients according to their sociodemographic characteristics.

Concerning the patient sex, it was noticed that more than half of the clients in Damanhour and Abo-Homos were females (58.0% and 52.7%% respectively), while less than two third (64.7%) of the clients in Etay El-Baroad and the majority (81.3%) of the clients in Al-Rahmanya were male, with a statistically significant difference between the four districts (p =0.000).

Regarding clients 'age, it was found that minority of the clients in Damanhour and Al-Rahmanya aged less than 20 years (60% and 3.3% respectively), compared around on tenth (9.3%) of the clients in Etay El-Baroad and 14.0% of them at Abo-Homos. On the other hand, minorities of the clients in the four sectors aged 60 years and more (5.3%, 2.7%, 4.7% and 3.3% respectively).

With respect to the client's level of education the same table reveals that more than one tenth of the clients in Damanhour, Etay El-Baroad and Abo-Homos were illiterate (11.3%,10.7% and 15.3% respectively) compared to 6.7% of the clients in Damanhour, Etay EL-Baroad and Abo-Homos were illiterate (11.3%,10.7% and 15.3% respectively) compared to 6.7% of the patients in Al-Rahmanya.

While, more than one quarter (27.3%) of clients in Al-Rahmanya had university education compared to 22.0% of the clients in Etay EL-Baroad, and 15.3% of those in Abo-Homos and only 6.0% of the clients in Damanhour, with a statistically significant differences between the four districts in relation to the level of education (p=0.000).

Moreover, more than three quarters (76.0% and 78.0%) of the clients in Damanhour and Al-Rahmanya were married compared to 72.0% of the clients in Etay EL-Baroad and (65.3%) of the clients in Abo-Homos, with a statistically significant differences between the four districts in relation to the marital status (p= 0.000). Additionally, the vast majority of the clients in Damanhour, Etay EL-Baroad, abohomos and Al-Rahmanya were from rural areas (100.0%,98.0%,96.7%, and 98.7% respectively).

The same table painted out that the majority (83.3%) of the patients in Al-Rahmanya were not working compared to less than three quarter (73.3%) of the patients in Etay El-Baroad, and more than two thirds (68.7%) of the patients in Abo-Homos and more than half (53.3%) of the clients in Damanhour, with a statistically significant difference between them (p=0.000).

Table (1): Distribution of the studied clients according to their sociodemographic characteristics

Items	Damanhour FHC (n=150)		Etahy El Baroad FHC (n=150)		Abo-Homos FHC (n=150)		Al-Rahmanya FHC (n=150)		Total (n =600)		Test of significance
	No.	%	No.	%	No.	%	No.	%	No.	%	
Sex											
- Male	63	42.0	97	64.7	71	47.3	122	81.3	353	58.8	X^2= 59.201 P= 0.000*
- Female	87	58.0	53	35.3	79	52.7	28	18.7	247	41.2	
Age (years)											
- <20	9	6.0	14	9.3	21	14.0	5	3.3	49	8.2	X^2= 18.544 P= 0.235
- 20-	65	43.3	63	42.0	55	36.7	74	49.3	257	42.8	
- 30-	46	30.7	45	30.0	41	27.3	44	29.3	176	29.3	

PISSN: 2974-3281
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- 40-	6	4.0	9	6.0	7	4.7	9	6.0	31	5.2	
- 50-	16	10.7	15	10.0	19	12.7	13	8.7	63	10.5	
- ≥60	8	5.3	4	2.7	7	4.7	5	3.3	24	4.0	
Level of Education											
- Illiterate	17	11.3	16	10.7	23	15.3	10	6.7	66	11.0	
- Read & write	26	17.3	12	8.0	20	13.3	8	5.3	66	11.0	
- Primary education	8	5.3	46	30.7	29	19.3	59	39.3	142	23.7	
- Preparatory education	39	26.0	27	18.0	29	19.3	24	16.0	119	19.8	X^2= 125.388 P= 0.000*
- Secondary education	51	34.0	16	10.7	26	17.3	8	5.3	101	16.8	
- University education	9	6.0	33	22.0	23	15.3	41	27.3	106	17.7	
Marital status											
- Single	19	12.7	20	13.3	22	14.7	12	8.0	73	12.2	
- Married	114	76.0	108	72.0	98	65.3	117	78.0	437	72.8	X^2= 31.214 P= 0.000*
- Divorced	0	0.0	9	6.0	5	3.3	14	9.3	28	4.7	
- Widowed	17	11.3	13	8.7	25	16.7	7	4.7	62	10.3	
Place of residence											
- Rural	150	100.0	147	98.0	145	96.7	148	98.7	590	98.3	X^2= 5.288 P= 0.152
- Urban	0	0.0	3	2.0	5	3.3	2	1.3	10	1.7	
Occupation											
- Technical work	33	22.0	17	11.3	23	15.3	14	9.3	87	14.5	
- Official work	21	14.0	8	5.3	15	10.0	1	0.7	45	7.5	
- Professional work	16	10.4	15	10.0	9	6.0	10	6.7	50	8.3	X^2= 42.704 P= 0.000*
Housewives/no work	80	53.3	110	73.3	103	68.7	125	83.3	418	69.7	

X^2 Chi Square Test * Statistically significant at p ≤0.05

- **Clients' Health History**

Table (2) illustrates the studied clients' health-history. Regarding the reason for visiting the clinic, childcare was the first stated reason in Al-Rahmanya, Etay EL-Baroad, and Abo-Homos (61.3% 46.0%, and 28.0% respectively), while it was dental care in Damanhour as mentioned by more than one fourth (28.7%) of the clients, with statistically significant differences among them(p=0.000). Furthermore, more than one quarter (28.0%) of the clients in Abo-Homos compared to more than one fifth (20.7%) of the clients in Damanhour, 18.0% of the clients in Etay EL-Baroad and 11.3% of the clients in Al-Rahmanya had chronic diseases, with a statistically significant difference between them (p=0.003). Diabetes Mellites was the main diseases reported by the clients in Damanhour, Al-Rahmanya, Etay EL-Baroad, and Abo-Homos (48.4%, 52.9%, 55.6%, and 61.9% respectively). Hypertension was the second mentioned one by more than one third of the clients (41.2% and 41.9 %) in Al-Rahmanya and Damanhour respectively, with a statistically significant difference between them (p=0.006).

As well, the vast majority (98.7%) of the clients in Al-Rahmanya, and (81.3%) of the clients in Etay El-Baroad reported regular follow up compared to more than two thirds (69.3%) of the clients in Abo-Homos and half (51.3%) of those clients in Damanhour, with a statistically significant difference between them (p=0.000). Furthermore, the majority of the clients who reported regular follow up, mentioned that they do it once by those clients in Abo-Homos, Etay EL-Baroad, Al-Rahmanya, and Damanhour (78.8%. 86.1%, 86.5% and 92.2% respectively), with a statistically significant difference between them (p=0.013).

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The same table reveals that around one third (32.7%) and exactly two fifths (40.7%) of the clients in Al-Rahmanya and Damanhour respectively compared to about one quarter of the clients in Abo-Homos and Etay El-Baroad (26.7% and 24.7% respectively) reported presence of problems in services provision, mainly poor quality of the services as declared by 38.8% of the clients in Damanhour and 64.9% of the clients in Abo-Homos. While less than half of the clients in Abo-Homos compared to more than one third of those in Damanhour reported shortage of staff. Also, more than half (53.1%) of the clients in Damanhour compared to 32.4% of the clients in Abo-Homos mentioned shortage of drug provision, with a statistically significant difference between the four districts in relation to the presence of services problems and the problems itself (p-=0.000 and, p=0.000 respectively).

Moreover, the highest percentages of the clients in the four districts (Etay El-Baroad, Al-Rahmanya, Abo -Homos, and Damanhour) stated that they don't know the responsible person of the encountered problems (70.0%, 75.4%, 78.4% and 85.7% respectively), while the other mentioned causes by the clients were either the organization manager or the working staff. Additionally, the highest percentages of the clients who reported problems in services provision declared that they notified the centers' manager about the problem (77.6%, 81.1%, 90.0% and 91.8%) in Damanhour, Abo -Homos, Etay El-Baroad, and Al-Rahmanya respectively. Finally, the least percentages of them noted that the problems solved were 3.3% in Abo-Homos, 8.3% in Etay El-Baroad, 12.5% in Al-Rahmanya and 15.8% in Damanhour.

Table (2): Distribution of the studied clients according to their health-history

Items	Damanhour FHC (n=150)		Etay El Baroad FHC (n=150)		Abo-Homos FHC (n=150)		Al-Rahmanya FHC (n=150)		Total (n =600)		Test of significance
	No.	%	No.	%	No.	%	No.	%	No.	%	
Reason for visiting the clinic											
- Child care	24	16.0	69	46.0	42	28.0	92	61.3	227	37.8	X^2= 145.575 P= 0.000*
- Maternal care	31	20.7	24	16.0	23	15.3	22	14.7	100	16.7	
- Chronic diseases	31	20.7	27	18.0	42	28.0	17	11.3	117	19.5	
- Dental care	43	28.7	13	8.7	26	17.3	1	0.7	83	13.8	
- Emergency care	23	15.3	4	2.7	10	6.7	0	0.0	37	6.2	
- General checkup	11	7.3	10	6.7	14	9.3	1	0.7	36	6.0	
Presence chronic disease											
- Yes	31	20.7	27	18.0	42	28.0	17	11.3	117	19.5	X^2= 13.622 P= 0.003*
- No	119	79.3	123	82.0	108	72.0	133	88.7	483	80.5	
Chronic diseases	**N= 31**		**N=27**		**N=42**		**N=17**		**N=117**		
- Diabetes Mellites	15	48.4	15	55.6	26	61.9	9	52.9	65	55.6	X^2= 44.627 P= 0.006*
- Hypertension	13	41.9	9	33.3	9	21.4	7	41.2	38	32.5	
- Liver diseases	1	3.2	4	14.8	7	16.7	2	11.8	14	12.0	
- Thyroid disease	2	6.5	2	7.4	4	9.5	0	0.0	8	6.8	
- GIT diseases	4	12.9	0	0.0	0	0.0	0	0.0	4	3.4	
Regular follow up	N= 150		N= 150		N= 150		N= 150		N=600		
- Yes	77	51.3	122	81.3	104	69.3	148	98.7	451	75.2	X^2= 95.814 P= 0.000*
- No	73	48.7	28	18.7	46	30.7	2	1.3	149	24.8	
Number of follow up visits	**N= 77**		**N= 122**		**N= 104**		**N= 148**		**N=451**		
- Once/month	71	92.2	105	86.1	82	78.8	128	86.5	386	85.6	X^2= 16.12 P= 0.013*
- Twice/month	2	2.6	13	10.7	12	11.5	18	12.2	45	10.0	

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- Three times and more/month	4	5.2	4	3.3	10	9.6	2	1.4	20	4.4	
Have problems in services provision	**N= 150**		**N= 150**		**N= 150**		**N= 150**		**N=600**		
- Yes	49	32.7	40	26.7	37	24.7	61	40.7	187	31.2	X2= 16.12 P= 0.013
- No	101	67.3	110	73.3	113	75.3	89	59.3	413	68.8	

Table (2): Cont.

Items	Damanhour FHC (n=150)		Etay El Baroad FHC (n=150)		Abo-Homos FHC (n=150)		Al-Rahmanya FHC (n=150)		Total (n =600)		Test of significance
	No.	%	No.	%	No.	%	No.	%	No.	%	
Problems in services provision#											
	N= 49		**N= 40**		**N= 37**		**N= 61**		**N=187**		
- Poor quality of services	19	38.8	14	35.0	24	64.9	11	18.0	68	36.4	X^2= 34.947 P= 0.000*
- Shortage of staff	18	36.7	11	27.5	18	48.6	8	13.1	55	29.4	
- Overcrowding	13	26.5	9	22.5	11	29.7	8	13.1	41	21.9	
- Shortage of drugs	26	53.1	12	30.0	12	32.4	19	31.1	69	36.9	
- Maltreatment of staff	2	4.1	8	20.0	1	2.7	15	24.6	26	13.9	
Person responsible for the problem											
	N= 49		**N= 40**		**N= 37**		**N= 61**		**N=187**		
- Administrator	5	10.2	4	10.0	7	18.9	0	0.0	16	8.6	X^2= 23.689 P= 0.000*
- Staff	2	4.1	8	20.0	1	2.7	15	24.6	26	13.9	
- Don't know	42	85.7	28	70.0	29	78.4	46	75.4	145	77.5	
Notify organization manager about the problem											
	N= 49		**N= 40**		**N= 37**		**N= 61**		**N=187**		
- Yes	38	77.6	36	90.0	30	81.1	56	91.8	160	85.6	X^2= 5.708 P= 0.127
- No	11	22.4	4	10.0	7	18.9	5	8.2	27	14.4	
Problem solved	**N= 38**		**N= 36**		**N= 30**		**N= 56**		**N=160**		
- Yes	6	15.8	3	8.3	1	3.3	7	12.5	17	10.6	X^2= 3.153 P= 0.368
- No	32	84.2	33	91.7	29	96.7	49	87.5	143	89.4	

X^2 Chi Square Test * Statistically significant at p ≤0.05 # Multiple responses were allowed.

Table (3) portrays the distribution of the studied clients according to the levels of their satisfaction about quality of PHC services.

Concerning the structure, the majority (87.3%) of the clients in Damanhour compared to more than three quarters of Etay EL-Baroad and Abo-Homos (75.3%and 78.0% respectively) and two thirds 966.7%) of the clients in Al-Rahmanya had a low level of satisfaction. While, minorities of them had a high level of satisfaction (2.0%,2.0%3.3% and1.3% respectively)., with a statistically significant difference between them (p=0.000).

PISSN: 2974-3281
EISSN: 2974-329x

Regarding, the process, the majority of the patients (89.3%) in Damanhour and more than three quarters of the patients in Etay EL-Baroad, abohomos, and El-Rahmanya had a low level of satisfaction (78.7%,77.3% and 76.0%respectively). On the other hand, the lesser percentages of the four districts had a high level of satisfaction (2.0%,6.7%,9.3%, and2.7% respectively) with a statistically significant difference between them (p=0.000).

With respect to the general quality, the highest percentages of the clients in Damanhour, Etay El-Baroad, Abo-Homos, and Al-Rahmanya had a low level of satisfaction (66.7%,76.7%,71.3% and 76.0% respectively).

Table (3): Distribution of the studied clients according to their levels of satisfaction about quality of PHC services.

Items	Damanhour FHC(n=150)		Etahy El Baroad FHC(n=150)		Abo-Homos FHC(n=150)		Al-Rahmanya FHC(n=150)		Total (n =600)		Test of significance
	No.	%	No.	%	No.	%	No.	%	No.	%	
Structure											
Low	131	87.3	113	75.3	117	78.0	100	66.7	461	76.8	X^2= 22.559 P= 0.001*
Moderate	16	10.7	34	22.7	28	18.7	48	32.0	126	21.0	
High	3	2.0	3	2.0	5	3.3	2	1.3	13	2.2	
Process											
Low	134	89.3	118	78.7	116	77.3	114	76.0	482	80.3	X^2= 20.997 P= 0.002*
Moderate	13	8.7	22	14.7	20	13.3	32	21.3	87	14.5	
High	3	2.0	10	6.7	14	9.3	4	2.7	31	5.2	
General quality											
Low	100	66.7	115	76.7	107	71.3	114	76.0	436	72.7	X^2= 8.746 P= 0.188
Moderate	37	24.7	29	19.3	38	25.3	30	20.0	134	22.3	
High	13	8.7	6	4.0	5	3.3	6	4.0	30	5.0	

X^2 Chi Square Test

* Statistically significant at p ≤0.05

Figure (1): Distribution of the studied clients according to their total levels of satisfaction about quality of PHC services.

Additionally, the majority (88.7%) of the patients in Damanhour compared to more than three quarters of the clients in Etay EL-Baroad, Abo-Homos and Al-Rahmanya (78.7%,78.0%, and 76.7% respectively). Had a total low level of satisfaction. On the other hand, minorities of them had ahigh level of satisfaction (0.7%,4.0%,6.7%, and 1.3% respectively) with a statistically significant difference between them (p=0.005).

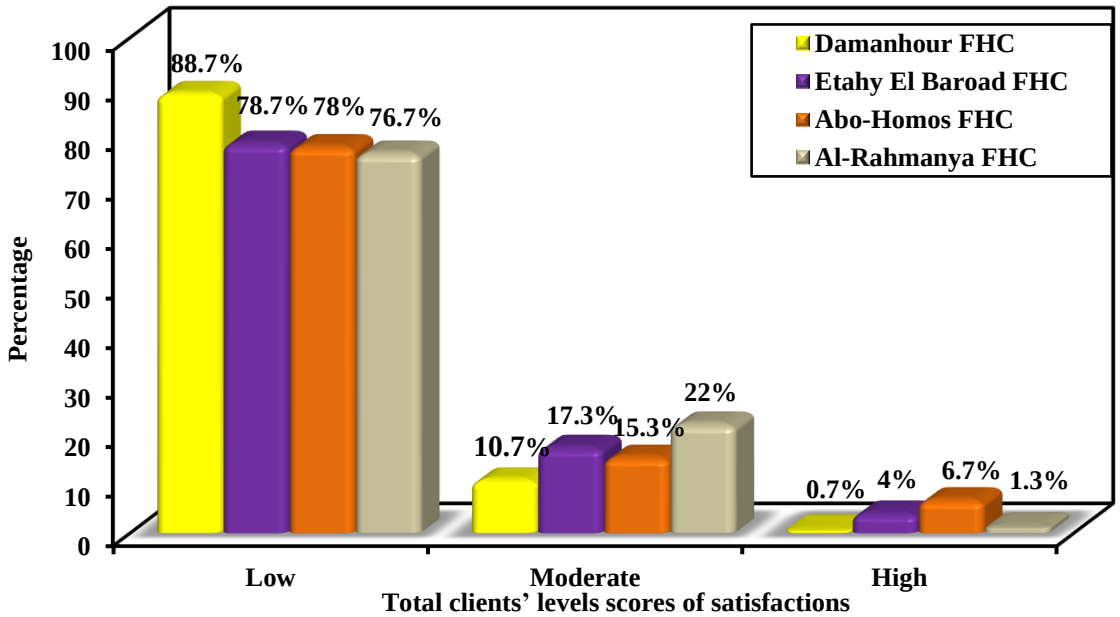

Figure (1): The studied clients according to Total clients' levels scores of satisfactions

Table (4) Predictors of clients' satisfaction about quality of primary health care services (Regression analysis)

PISSN: 2974-3281
EISSN: 2974-329x

The association between satisfaction and characteristics of the study sample shown in table (4). It was explored using binary logistic regression analysis (**Clients' satisfaction of family healthcare services structured interview schedule**) with low satisfaction as the dependent variable. The R^2 value is 0.420 which means that only 42.0% of the variability in the outcome is explained by the studied characteristic in the model with overall model significance of (P= 0.000).

Table (4) indicates that twelve variables were found to be predictors of low satisfaction namely patients' age (P=0.007), place of residence (P=0.000), marital status (P= 0.000) , job (P= 0.051), reason of visits (P= 0.000), have previous diseases (P= 0.004), have current disease (P= 0.000), regular follow up visits (P= 0.028), number of follow up visits (P= 0.000), have problems in services (P- 0.009), notify administrator in case of service problems (P= 0.000) and solve of reported problems (P=0.000).

Table (4) Predictors of clients' satisfaction about quality of primary health care services (Regression analysis)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.351	0.207		1.698	0.090
Directorate	-0.020	0.016	-0.045	-1.247	0.213
Center	0.025	0.019	0.042	1.318	0.188
Sex	-0.050	0.037	-0.050	-1.357	0.175
Age	-0.051	0.019	-0.129	-2.695	0.007*
Place of residence	1.737	0.136	0.455	12.761	0.000*
Marital status	-0.124	0.033	-0.191	-3.806	0.000*
Level of education	-0.019	0.014	-0.062	-1.417	0.157
Job	-0.036	0.018	-0.082	-1.959	0.051*
Reason of visit	-0.050	0.013	-0.199	-3.783	0.000*
Have previous diseases	0.214	0.074	0.174	2.891	0.004*
Have current diseases	0.285	0.049	-0.283	-5.834	0.000*
Regular follow up	0.170	0.077	-0.150	-2.198	0.028*
Number of follow up visits	0.284	0.042	0.388	6.816	0.000*
Have problems in services	0.203	0.048	0.313	2.039	0.009*
Notify administrator in case of services' problems	0.437	0.093	-0.396	-4.714	0.000*
Solve of reported problem	0.610	0.112	0.207	5.446	0.000*

* Statistically significant at $p \leq 0.05$

Model Summary of clients' satisfaction predictors

R	R Square	Adjusted R Square	Std. Error of the Estimate	overall model significance
0.648	0.420	0.404	0.377	P= 0.000

Discussion

Clients' satisfaction, which is a consumer's perspective and attitude toward their whole experience with health care services, is a multifaceted factor and a crucial essential indicator of the caliber of health care services. Furthermore, for the health care system to operate smoothly, the degree of clients'/patients' satisfaction is an internationally recognized factor that needs to be routinely assessed to complement other techniques of quality assessment and assurance. [3,19]

Quality of health care is frequently suboptimal to have the desired effect on health and well-being, services need to be of high quality – safe, effective and people-centered. Poor quality of healthcare services can result in treatment delays, incorrect diagnoses, patient harm, and poor client's experiences. One way to assess quality is to examine whether healthcare providers make the right diagnosis and take the recommended or expected evidence-informed clinical action. [20]

Geographic access to health care centers remains a major difficulty, particularly in Africa in low- and middle-income countries, Moreover, having access to healthcare centers offering health services close to where people live, and

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work, or having too few healthcare centers far from where people live and work, or centers that do not meet the needs and expectations of the population for example, because of inconvenient operating hours, inhospitable staff or unsafe or dysfunctional infrastructure can discourage clients from seeking care altogether or delay care, with a direct effect on health outcomes. [20,21] The worldwide concern now is over the quality of the healthcare services being provided to all patients and clients. Since, clients' satisfaction is the most important indicator for quality improvement.[22] Customer satisfaction and customer relationship in organizational processes, although, understanding the issues and identifying the expectations and requirements of clients are always important.[23]

The current study shows the association between client's satisfaction levels related to primary health care services and their characteristics. The client satisfaction in terms of individual characteristics and primary health care setting was evaluated via gender, education, and place of residence. All these factors include the elements that are involved in shaping culture and society. Twelve variables were found to be predictors of low satisfaction as patients' age, place of residence, marital status, occupation, reason of visit, have previous diseases, have current disease, regular follow up, number of follow up visits, have problems in services, notify organization manager in case of services' problems and solve of reported problems. Regarding the relationship between the clients' level of satisfaction about quality of PHC services and their demographic characteristics. Studies of Karaca and Durna (2019) [24] reported that no relationships were found between gender and clients' satisfaction levels and client's gender did not affect satisfaction values which is significantly more in men than women. This is contradicted to findings of the present study, that nearly three quarters of the participated clients aged 20 to less than 30 years and more than half of them were male and most of them were at Al-Rahmaniya and Etay El Baroad districts.

Similarly, more than three quarters of men clients compared to majority of women had low satisfaction level for quality domains (structure, and process) with a significance relationship. This is in line with study done by Kol et al. (2018) [25] who showed higher satisfaction levels in men than to those observed in women. This is dissimilar with study conducted by Alhusban and Abualrub (2009) [26] who reported that women's levels of satisfaction with care provision were higher relative to those observed in men. This may be because those females do not seek medical care for themselves, they were more likely to accompany their children or husbands. The highly attendance for that age group because of child vaccination as a necessity for them which is congruent with the study conducted by Alzaied et al. (2016).[27]

The increase of public awareness is the basic concern of making the definition of quality health services. In present study, nearly two thirds of clients who had university education being most dissatisfied with quality of services rendered to them and more than one third of them were moderately satisfied compared to majority of those who had preparatory and secondary education. These results are contradicted with study done by Karaca and Durna (2019) [24] they found that clients who had primary education reported greater satisfaction level with nursing services relative to that reported by those had university education. Study done by Alhusban and Abualrub (2009) [26] revealed that the level of education was not associated with client's satisfaction. These study findings indicated that clients, as their education levels increase, expect more from nursing staff and a high quality of care. This is because clients/patients with high educational levels retain more information about treatment alternatives and expect higher standards in quality of care received.

Patient satisfaction has been associated with accommodation. In the current study rural patients had low satisfaction level regarding quality of services than urban patients because that rural development in Egypt now affect the patient's perspective and increasing their health awareness.

The current study shows that nearly one fifth of the clients had chronic diseases. Where the majority of clients of those experiencing low level of satisfaction with the services reported not having regular follow up, and most of them having problem in services provision and they notify the administrator about it where they do not solve the problems. These are supported with the study of Karaca et al. (2019) [24] who reported that the hypertension clients were unsatisfied with services provided through PHC. If healthcare organization managers can identify patient expectations, they could accordingly adjust the performance of services that they offer to meet these expectations.

Patient satisfaction has converted a very important issue in recent decades and has been used to measure the outcome of the quality of healthcare delivery. Furthermore, identifying unsatisfied clients/patients and exploring their views on health care is essential for improving health care quality. Accessibility of health care, organization of its

PISSN: 2974-3281
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services, treatment length, clinic structure, and competence of physicians are the core factors related to client/patient satisfaction.[28]

Physical infrastructure and surroundings can affect a client's/patient's perception about the quality of services received.[22] The current study reveals that more than three quarters of the clients had low level of satisfaction in services' general quality, structure, and process especially for those at Damanhour PHC Centers. This is contradicted with Hemadeh et al. (2019) [29] who found that overall, 96.66% of surveyed patients reported being either satisfied (60.23%) or very satisfied (36.43%) with the services provided at the PHC. Client/Patient satisfaction level at a health care facility could be referred to the different levels of expectations of the patient population and culture.

The client's first interaction with the health system occurs and comprises a range of actions which includes many dimensions, and contexts is presenting Primary health care (PHC). Due to these characteristics, it becomes important to evaluate and improve the quality of primary health care. It is established that primary care can lead to better health outcomes, lower costs, and greater equity in health.[30]

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the findings of the present study, it could be concluded that the studied patients have a low level of satisfaction related to quality of FHC for structure, process, and outcome specially at Damanhour district. The presence of association was found between client's satisfaction levels related to family health care services and their characteristics as gender, education, and place of residence.

Recommendations

The current study interprets the core findings of the research and introduces probable measures to improve the quality of primary health care services in all districts consequently increasing clients' satisfaction in the primary health care clinics especially family health.

- Policy Reform In order to overwhelmed the problematic shortage of medicine
- There is a critical need to add some changes to the Essential Drug List.
- Organize educational campaigns to all primary health care patients/clients (family health centers and unites).
- Community participation with the FHC in improvement plan by sharing their ideas, issues, and concerns in quarterly meeting.
- Give trust to health caregivers by following the rules and regulations of the FHC.
- Attend the educational sessions that are done by health caregivers in FHC.

Limitations of the study

- The lock down because of Covid 19 outbreak increased the timing of collecting the data.
- Timing spent with the clients in the interview was limited because of the outbreak.

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CONFLICTS OF INTEREST

- There is no conflict of interest to disclose.

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